
TONGA
KO E 'ÓTUA MO TONGA KO HOKU TOFI'A

This is a historical work

based on worldwide news reports of the January 15, 2022 eruption of the Hunga Tonga and Hunga Ha'apai Volcano with special acknowledgment to Matangi Tonga Online

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THE FRIENDLY ISLANDS

The word Tonga comes from fakatonga, which means "southwards", and the archipelago is so named because it is the southernmost group among the island groups of central Polynesia. Tonga is known as the “Friendly Islands” because of the congenial reception given to Captain James Cook when he sailed there on his first visit, landing on Oct 2, 1773. This was during his second Pacific voyage.

He arrived at the time of the annual ‘inasi festival, which centers around the donation of the “First Fruits” to the Tu‘i Tonga, the islands' monarch, so he received an invitation to the island’s festivities.

Captain Cook’s welcome.

The 1773 Inasi ceremony, for the son of Fatafehi Paulaho, the sacred King of Tonga (Tui Tonga), probably performed in honour of his coming of age. Drawn by John Webber, Cooks official artist on the voyage.

Located to the west of the International Dateline, Tonga is the first Pacific nation to greet the new day. The Kingdom of Tonga is a Polynesian country and also an archipelago made up of 169 islands, of which 36 are inhabited, scattered over 700,000 km2 (270,000 sq mi) of the southern Pacific Ocean. The Friendly Islands has a population of over 104,000, 70% of whom reside on the main island, Tongatapu. In Tonga, agriculture and forestry, together with fisheries, provide the majority of employment, foreign exchange earnings, and food. Tongans who live outside the towns rely on both plantation and subsistence agriculture. Plants grown for both market cash crops and home use include bananas, coconuts, coffee beans, vanilla beans, and root crops such as cassava, sweet potato, and taro. As of 2001, two-thirds of Tonga's agricultural land was in root crops.

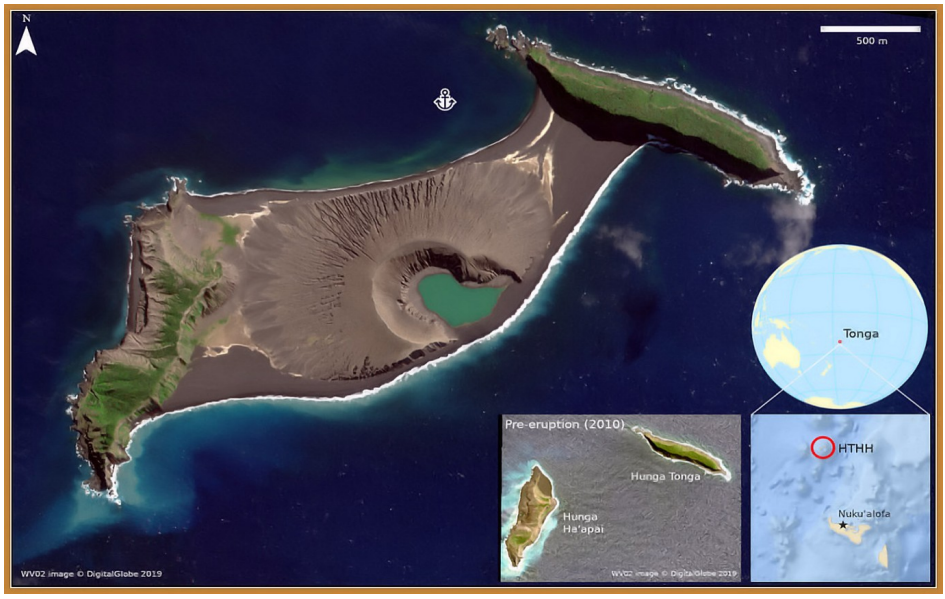
The Tongan culture is known for its friendly hospitality and its rich cultural inheritance showcased through Tongan dance, music, art and food, passed down through many generations. Tonga has dramatic & active volcanic landscapes, spectacular tropical rainforest, low-lying coral atolls, pristine coral reefs, magnificent sandy beaches and a unique and beautiful array of flora and fauna.

Traditional Tongan dress and dance

TONGA
THE FRIENDLY ISLANDS

Geological Description Of Hunga Tonga and Hunga Ha’apai

The small islands of Hunga Tonga and Hunga Ha'apai cap a large seamount located about 30 km SSE of Falcon Island. The two islands are about 2 km long and represent the western and northern remnants of the rim of a largely submarine caldera lying east and south of the islands. Hunga Tonga reaches an elevation of about 114 m above sea level, and both islands display inward-facing sea cliffs with lava layers dipping gently away from the submarine caldera. A rocky shoal 3.2 km SE of Hunga Ha'apai and 3 km south of Hunga Tonga marks a historically active vent. Several submarine eruptions have occurred at Hunga Tonga and Hunga Ha'apai since the first historical eruption in 1912. The 1912 eruption was followed by others in 1937, 1988, 2009, and 2014-15. The eruption that began in mid-December 2014 built a new island between Hunga Tonga and Hunga Ha’apai, the two larger islands.



Hunga Tonga and Hunga Ha’apai with new island between

Timeline: May 1988 - Lava from shallow submarine site.

Fishermen reported the beginning of an eruption E. of Hunga Ha'apai Island on June 1, 1988 at 08:00. They noted the ejection of "fire," tephra (rocks), and large volumes of dense white smoke and steam. They reported that the sea water nearby was warm to the touch. The next day, a Friendly Islands Airways pilot reported an active eruption at the S. edge of a shoal. Vigorous steam emission was occasionally punctuated by ejection of solid material. On June 3 at 09:15, a Friendly Islands flight with geologists Saimone Helu (Ministry of Lands, Tonga), Julian Pearce, and Michelle Ernewein (Newcastle Univ) was diverted to view the eruption. The eruption was continuing in shallow water, 1 km SSE of Hunga Ha'apai. Lava had apparently been erupted from three sources in a SW-NE trend extending 100-200 m, with current activity at the SW end. There was no evidence of a new island.

A new eruption from multiple vents on and near Hunga Ha'apai Island began producing ash and steam plumes sometime in the late afternoon of March 17, 2009. Coordinates provided by Chathams Pacific pilots accurately located the activity as being near the islands of Hunga Tonga and Hunga Ha'apai.

According to Matangi Tonga news, the Tonga Defence Services reported the eruption to the Geological Division of the Ministry of Lands on March 17. Government geologist Kelepi Mafi noted that "sharp tremors" had been recorded by their seismic instruments during the previous three weeks, though the seismicity could not be directly linked to the eruption. Quotes by Mafi indicated that, based on seismicity, the submarine eruption may have started on March 16.

As reported by Agence France Presse (AFP), radio journalist George Lavaka viewed the eruption from a game-fishing boat operated by Lothar Slabon on the afternoon of March 18. He described an island completely covered in black ash, coconut tree stumps, and dead birds and fish in the surrounding water. Video and photographs taken by passengers on that boat clearly showed a submarine vent offshore to the South and another vent some distance away on the NW part of the island. Activity increased during the hour that the boat was present, during which time both vents exhibited strong explosions. As the eruption from the offshore vent became stronger, the plume included larger amounts of steam, produced base surges along the ocean surface, and ejected rocks and boulder bombs.

As reported by "Matangi Tonga" on Thursday, March 19, 2009 - 14:42 - There was a moment of panic as a boatload of observers had a close encounter with an explosive eruption on Hunga Ha'apai yesterday, March 18, 2009, when they moved in close to take spectacular photographs of an eruption that is continuing today, March 19, 2009, only 34 nautical miles off the coast of the capital Nuku'alofa.

Lothar Slabon, a resident of Nuku'alofa said the island has two active vents - one on land and one from the sea. The loud explosions were happening at intervals of every three minutes or so, throwing huge clouds of volcanic material into the air, he said. A mushrooming column of white smoke can be seen from Nuku'alofa.

He went out to the area on the game-fishing charter boat the "Southern Extreme" skippered by Mohammed Razak after he saw the eruption from his home in Sopu yesterday. At about 3:00 pm they were holding a position south of the island, which they thought was a safe distance away and downwind, when a loud explosion sent a huge cloud of steam and ash billowing toward them. "I shouted to turn the boat around, because I thought we could gun it away ahead of the cloud of ash," he said.

Fortunately, the billowing cloud stopped before it reached the boat but Lothar said that soon after they left and were about a mile and a half out from the island another explosion engulfed the area where they had been sitting. "It was a massive explosion, the biggest of all we had seen, and it would have definitely covered the boat if we were still sitting in that spot," he said. The eruption is sending intermittent blasts of volcanic material and smoke thousands of metres into the sky.

"After each blast it rains heavily because so much water is being thrown up as well as the big rocks, so the scene is changing all the time," he said. The rocks are being thrown hundreds of feet into the air and are landing close to the island. "The island has a new extension of about 200 metres and about five metres high," he said. "But it is completely burnt and all the wildlife - the plants and the birds on the island- has been wiped out, the birds couldn't get away," he said.

Lothar was fishing in the area on February 20 and took pictures of the island in its pristine condition as it was before the eruption. The eruption is continuing today and can be clearly seen to the north west from the Nuku'alofa waterfront, and also from Kanokupolu Beach and Ha'atafu Beach. The government geologist Kelepi Mafi has warned fishermen not to go near the area, which is still extremely dangerous.

Hunga Ha-apai Double Venting
Photos by Lothar Slabon and Mohammed Razak

A science team led by Mafi observed the eruption site at Hunga Ha'apai from a boat on 19 March. By that time, as reported by AFP, tephra had filled the gap between the submarine vent, originally about 100 m offshore, and the island, adding hundreds of square meters of land. Residents on Tongatapu reported orange glow from the eruption on the night of 19 March.

Aviation reports: A New Zealand Dominion Post article on 19 March noted that flights were disrupted and rerouted around the activity following warnings from Airways New Zealand and MetService NZ.

The Wellington VAAC issued an aviation notice on 18 March based on ground observations from the Tongatapu airport of a plume rising to an altitude of 7.6 km at 06:59 that morning; ash was not seen in satellite data. Later that day, at 13:30, a plume seen on MODIS (Moderate Resolution Imaging Spectroradiometer) satellite imagery was within 1 km of the vent and moving NE.

A similar plume was reported based on MODIS and ground observations to an altitude of 4.5 km at 16:00. Airport observers continued to report a plume to 5 km altitude at 10:00 on 19 March, and to 4 km at 17:00, but with a band of ash extending 2.5 km NE from the volcano to 2.4 km altitude.

D. Tait, a pilot for Air Chatham, noted that at 17:00 on 19 March frequent eruptions were ejecting black ash, sometimes to a height of 300 m. The main white eruption plume was rising to about 4 km altitude and drifting ENE, to a distance of almost 500 km as seen in MODIS satellite imagery. He also observed that widespread ash and haze was trapped below an inversion layer at about 2 km altitude. On 20 March, a VAAC report at 1140 indicated a steam plume to 4 km but no visible eruption.

Pilot Tait reported that at 10:15 on 21 March the island was covered by weather clouds, the crater was not visible, and there was no vertical plume; haze was again below an inversion layer at 1.5 km altitude. No eruptions were seen during the 15 minutes the island was visible on the return flight around 12:50. However, steaming continued, with the plume rising to 1.8 km altitude. A new eruptive episode was reported by Tongatapu airport observers at 14:09 on 21 March that sent an ash plume 800 m high.

March 2009 - Eruption ends on 21 March, leaving new land and steaming lakes. The eruption from Hunga Tonga-Hunga Ha'apai that began from multiple vents at Hunga Ha'apai island on 17 March 2009 ended after five days of activity on 21 March.

The eruption destroyed all vegetation on the island, one of two high points on a submarine caldera rim. Strong Surtseyan (shallow) activity was witnessed by passengers on a fishing boat on 18 March. Satellite imagery acquired that day revealed a bright eruption plume, an extensive 10-km-radius zone of discolored water around the islands, and pumice rafts that had already drifted 20-25 km towards the NW.

By the next day, scientists on the scene observed that the submarine vent offshore to the S. had built new land that was connected to Hunga Ha'apai.

Aerial photographs from 21 March showed no activity at the NW vent and a steam plume rising from the S vent. However, airport observers on Tongatapu saw new eruptive activity with ash plumes on the afternoon of 21 March.

A *Matangi Tonga* news article on 1 April reported the eruption as being on 17-21 March. Although *Radio New Zealand International* reported that residents of Nuku'alofa saw "glow on the horizon" on 22 March and stated that ash eruptions continued on the 23rd, those observations were not confirmed.

On 27 March a group of four people, organized by Gian Piero Orbassano of the Waterfront Lodge, landed on Hunga Ha'apai using an inflatable dinghy launched from a charter fishing boat. They landed on the newly built southern part of the island and walked to the rim of the crater which they described as filled with orange steaming water.

They noted that landing on the "rocky black pumice" shore was difficult in rough seas. Large boulders on the surface crumbled when touched. The ground was firm to walk on, but the crater rim was "fragile and cracked". Orbassano, in a 5 April news report, stated that people were visiting the island by boat but not landing, viewing the "smoking" vents and yellowish water around the island.

Gianpiero Orbassano and Branko Sugar of Nuku'alofa are pictured top of the crater rim of the newly formed island, at Hunga, Tonga. March 27, 2009

The 2014-2015 eruption followed 5 years of dormancy, the previous eruption having occurred in 2009. That 2009 eruption formed new land above water and deposits destroyed vegetation on neighboring Hunga Tonga and Hunga Ha'apai islands. The 2009 eruption added land at the S end of Hunga Ha'apai island.

Eruption, December 2014. The online newspaper Matangi Tonga on 30 December noted that fishermen observed an eruption near Hunga Tonga-Hunga Ha'apai on 19 December 2014. An editor from that publication, Mary Lyn Fonua, notified GVP (Global Volcanism Program) of the eruption. The same publication issued over 10 reports during 30 December 2014 through at least 9 March 2015.

News was released at 09:43 on 14 January 2015; it reported the position of the vent that was active on 20 December. It described this particular area as venting steam and sulfurous-gas at the sea surface. Emissions here did not persist during the later stages of the eruption.

Image - 20 December 2014. A map showing the location of steaming at Hunga Tonga-Hunga Ha'apai volcano (orange icon) on 20 December 2014. Each of the two islands are about 2 km long and lie on rims of the mostly submarine caldera, with Hunga Tonga island to the N, and Hunga Ha'apai island to the W of the caldera's center. The area circled in red is the approximate location of the vent that later formed a new rapidly growing island. Photo taken from Culture Volcan (2015).

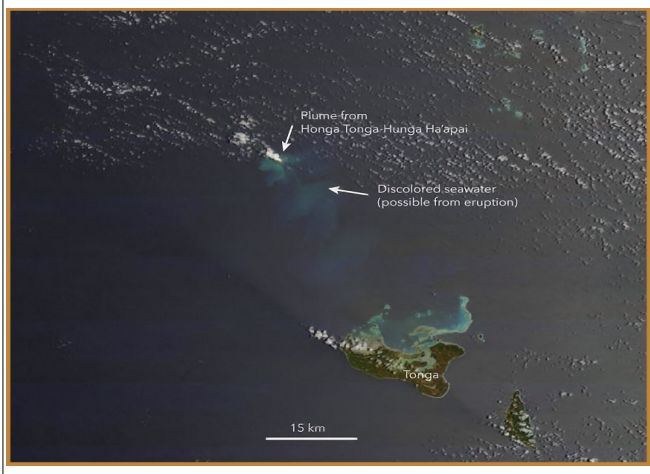


Image - 29 December 2014. The eruption plume from Hunga Tonga-Hunga Ha'apai seen on 29 December 2014 by Aqua's MODIS Imager. Image by NASA with annotations by Erik Klemetti (Klemetti, 2014).

Image - 14 January 2015. The new island amid eruption on 14 January 2015. The view is looking NE and the steep high area is Hunga Ha'apai island, which resides in behind the new island. From this perspective the vent appears to sit in the midst of the new low island. Photo taken on 14 January 2015 from the Tongan naval vessel ~300 m offshore.

CNES Pléiades satellite image taken on 19 January 2015. Ejecta from the new crater connects it to the E side of Hunga Ha'apai (island at left). Photo taken by Airbus Defense and Space (2015) with data acquisition credit to CNES (French - National Centre for Space Studies).

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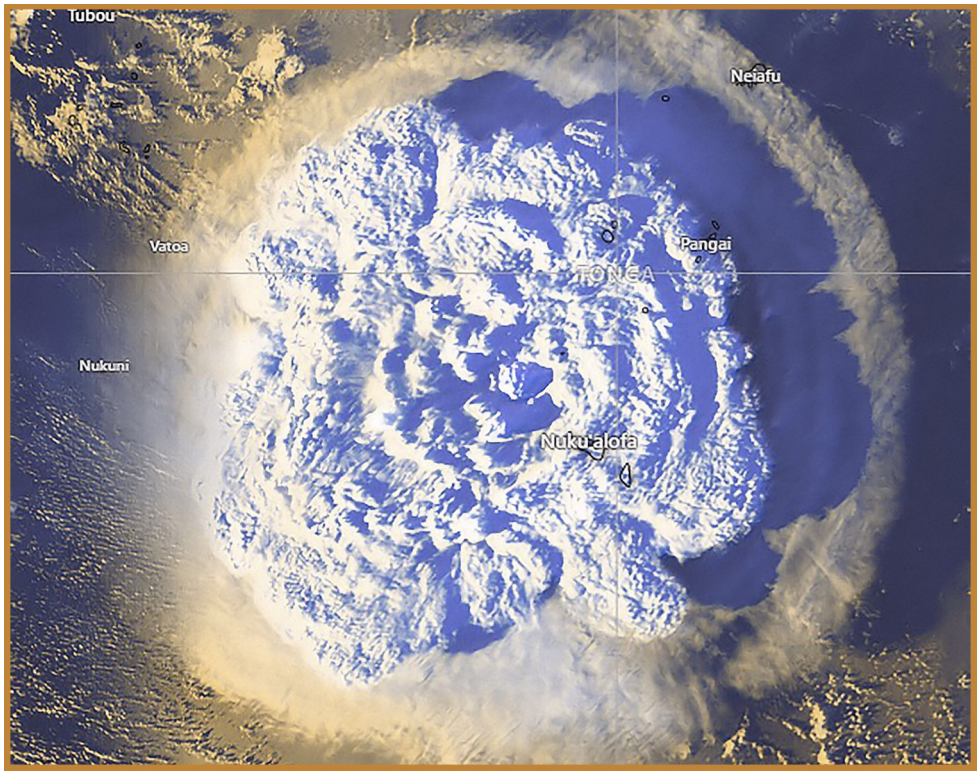
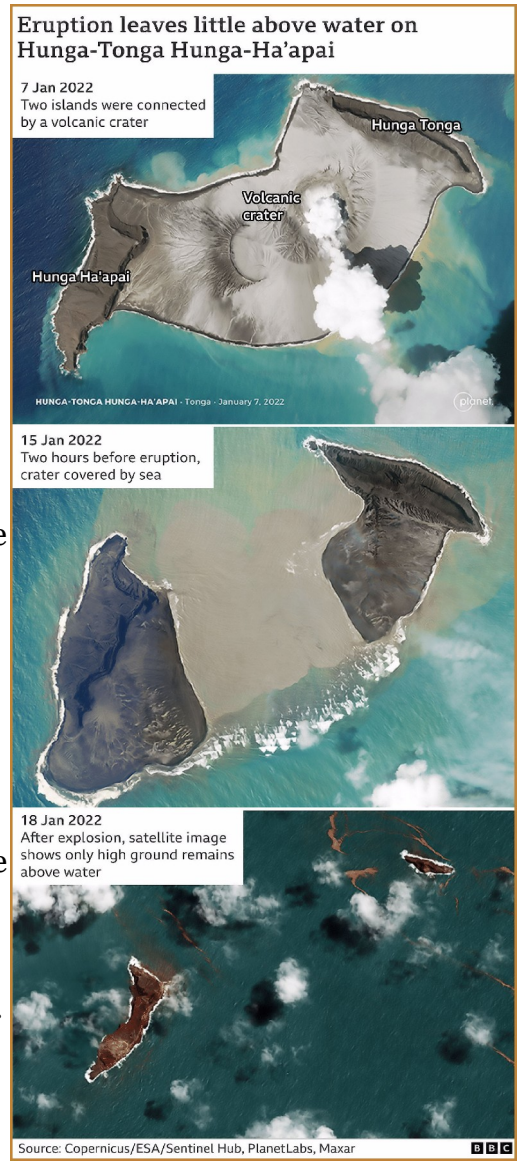
Large eruptions at Hunga Tonga-Hunga Ha'apai on both 14 and 15 January 2022 produced plumes that reached the stratosphere and caused significant regional effects. Activity on the 14th apparently removed approximately the middle third of the island that had been expanded over the previous few weeks, revealed by a Planet Lab image acquired at 15:25 on 15 January. About two hours after that image was taken an even stronger eruption activity produced a stratospheric plume seen in satellite images, sent pressure waves across the atmosphere, and caused a tsunami that traversed the entire Pacific.



View from space satellite. Equivalent to 10 megatons of TNT

Following these explosions, a Sentinel image acquired on 17 January showed that most of the previous combined island had been destroyed, leaving only small parts of the NE island of Hunga Tonga (200 m long) and the SW island of Hunga Ha'apai (700 m long) above the ocean surface.



Astronaut Kayla Barron said she could see the volcanic ash in the atmosphere from the International Space Station.

"I opened the window shutter to see if we could see any effects of the eruption, and saw this dramatic, high-altitude plume blocking out the sun," Barron said on Facebook. NASA released photographs showing a huge gray smudge over the blue Pacific.

The eruption plume drifted over the island groups of Tongatapu, 'Eua, Ha'apai, and Vava'u, carrying an estimated sulfur dioxide mass of 50,000 tons based on satellite data.

Sulfur odors were reported in Tongatapu (70 km S), near the capital on Motutapu Island, and on 'Eua (106 km SSE). Ashfall was reported on many islands, including Fonoi and Mango.

The Tonga Meteorological Services (TMS) issued tsunami warnings for areas including 'otu Mu'omu'a in Ha'apai (Nomuka, Mango, Fonoifua), 'Atataa, 'Eueiki, and Tongatapu mo 'Eua.

The Global Lightning Detection Network (GLD360) ground-based network detected 191,309 lightning events during a 21-hour period (03:34 on 14 January-01:34 on 15 January), or up to 30,000 events per hour; for comparison, during 22-28 December 2018 the partial collapse eruption of Krakatau generated 337,000 events. TGS noted that at 07:20 on 15 January an eruption lasting 10-15 minutes sent an ash plume to 14 km (45,900 ft) that drifted E.

According to news reports and social media posts, residents in Nuku'alofa (65 km S) heard multiple loud booms and saw a large expanding eruption plume that eventually covered all of the Tongan islands. Local residents said, due to the noise, they had to use hand signals to warn and direct people away from the beach and low-lying areas. According to the Wellington VAAC the plume had risen to 15.2 km (50,000 ft) by 18:19; the top of the plume as seen in satellite images was at least 600 km in diameter by 19:03. By 03:43 on 16 January the plume had risen to 19.2 km (63,000 ft). Analysis of other satellite datasets suggested that the plume may have risen to 30 km (98,400).

The sulfur dioxide mass of the plume was 0.4 Tg (400,000 tons) derived from satellite-based estimates; the cloud drifted W consistent with stratospheric winds. Significant ashfall was reported on populated islands of Tonga.

Most domestic and international communications on the islands were severed due to a break in an underwater cable, and ashfall delayed both damage assessment and relief assistance. An update on 18 January from the Government of Tonga provided details about the eruption and its effects, noting that tsunami warnings issued after the eruption began had triggered evacuations. Tsunami waves up to 2 m high, based on a news article, arrived on the W coasts of the Tongatapu, ‘Eua, and Ha’apai islands, and three people in Tonga were confirmed to have died as a result, with many others injured.

Tsunami waves breaking at high speed along the Nuku'alofa reef near the Patangata settlement, filmed on a cell phone from the second storey at Matangi Tonga Office. Pangaimotu Island at left. Photo still, by Mary Lyn Fonua. 15 Jan 2022.

Extensive damage was reported on Mango, Fonoifua, and Nomuka islands, and on the W part of Tongatapu. Aerial surveillance by the New Zealand Defence Force’s showed brown, damaged vegetation and landscapes, debris, and modified coastlines with sediment-laden waters. The Government of Tonga also noted that communications to the outer islands were accomplished with a patrol boat on 17 January, and limited communication with residents of Vava’u and Ha’apai was possible the next day. Evacuation efforts were underway for some remote islands.

Ashfall contaminated fresh water supplies, hindered sea transportation and harbor access, and caused flights to be cancelled. According to a news report, the small island of Atata, near Nuku'alofa, had been completely submerged.

Tsunami warnings were also issued in several other countries surrounding the Pacific Ocean. Several news sources reported flooding and damage caused by the tsunamis at locations as far away as Peru (over 10,000 km), where it caused two deaths.

Warnings were issued for the N and E coasts of New Zealand's North Island and in the Chatham Islands; multiple boats were destroyed. Thousands in Japan evacuated after tsunami warnings, and the waves there reached 80 cm, disrupting train services, flights, and damaging harbors and boats. In Anchorage, Alaska, the US National Weather Service reported maximum waves heights of 20-100 cm on Alaskan coastlines, and along the British Columbia Canadian coast waves were 16-29 cm on 15 January.

The explosions produced multiple pressure (shock) waves that rippled through surrounding weather clouds, though the pressure wave from the largest explosion propagated across and around the planet. The sonic boom from this wave was heard at great distances, including in Fiji (about 500 km NW), within about two hours in New Zealand (1,600-2,000 km), and within about nine hours in Alaska, USA (9,370 km NE).

The pressure wave was also recorded by infrasound and weather instruments worldwide as it circled the Earth, with instruments picking up the wave a second time as it arrived from the opposite direction.

Very small perturbances in the ocean waves recorded in the Caribbean, which some referred to as meteotsunamis, were likely generated by atmospheric disturbances from the pressure waves after they passed over South America.

"This might be the loudest eruption since [the eruption of the Indonesian volcano] Krakatau in 1883," one report said. That massive 19th-century eruption killed thousands and released so much ash that it cast much of the region into darkness and changed the weather earthwide. On social media, footage showed people fleeing as waves inundated Tonga's capital, Nuku'alofa, and the afternoon sky turned pitch black due to the heavy ash cloud. Tsunami warnings and advisories were also issued from parts of New Zealand, Japan and Peru, to the United States and Canada's British Columbia. In Japan, the northeastern prefecture of Iwate saw waves as high as 2.7 meters (9 feet) and multiple smaller tsunamis were reported in numerous other locations, according to public broadcaster NHK. The eruption also sent waves to the US West Coast, with some exceeding 3 and 4 feet in height, according to the National Weather Service office in San Diego. Tsunami waves were felt in California, Alaska and Hawaii.

A giant volcanic ash cloud blanketed Tonga over the weekend, turning the afternoon sky dark and coating Nuku'alofa in a thick foam of volcanic dust on Saturday. The ash cloud was drifting westwards and was visible over Fiji, Vanuatu and New Caledonia on Sunday. By Monday it had reached Australia's Queensland, according to the state's meteorological service. "If you noticed a particularly stunning sunrise, it was the sunlight being scattered by volcanic ash from the eruption over in Tonga," Queensland's Bureau of Meteorology said on Twitter. The ash prevented an Australian reconnaissance flight from departing to assess the damage in the early hours of January 17, though the flight did take off later that morning.

At least two people, including a British national who lived in Nuku'alofa, were killed in Tonga following the eruption and tsunami. The first images to emerge of the aftermath on January 18 show a thick layer of ash covering entire communities, particularly on the outlying islands.

Fatafehi Kinikinilau Lolomana‘ia Fakafānua

Tonga "needs immediate assistance to provide its citizens with fresh drinking water and food," the country's Speaker of the House Lord Fakafanua said in a statement posted to social media. He said "many areas" had been affected by "substantial volcanic ashfall" but "the full extent of the harm to lives and property is currently unknown."

The day after the Hunga eruption and tsunamis, a boat rests on the wharf at the Nuku'alofa boat harbour, while flotsam clogs the harbour. A large part of Nuku'alofa's small fishing fleet was destroyed. Nuku'alofa, Jan.16, 2022.

Photo: Mary Lyn Fonua, Matangi Tonga.

New Zealand's Prime Minister Jacinda Ardern said on January 16 that tsunami waves had a "significant impact" on Nuku'alofa, with boats and large boulders washed ashore. "Shops along the coast have been damaged and a significant cleanup will be needed," she said.
The main undersea communications cable has also been impacted, likely due to loss of power. Australia's Minister for International Development and the Pacific, Zed Seselja, said there was "significant property damage" in Tonga, including to roads and houses. He said there is still "very limited, if any" information coming from the outer islands. New Zealand's High Commission in Nuku'alofa echoed this, saying in a statement Monday that "significant" damage has been reported along the western coast of Tongatapu.

A family-owned beach resort located on Tongatapu also said the business had been destroyed. "It's with sadness to say that our beautiful home Ha'atafu Beach Resort has been completely wiped out. The whole western coastline has been completely destroyed along with Kanukupolu village," the Ha'atafu Beach Resort posted on Facebook on Monday.

Ha'atafu Beach Resort - WELLINGTON, New Zealand — The tranquil resort in Tonga sat behind a lagoon and reef break that was perfect for snorkelers and surfers alike. Guests who had never met before would sit together to eat delicious communal meals cooked by owner Moana Paea and her staff, or relax in rustic cabins tucked in the trees.

Ha'atafu Beach Resort – Before and After

Tongan Prime Minster Siaosi Sovaleni said all houses on the island of Mango, where 36 people live, were destroyed. Only two houses remain on Fonoifua island, and extensive damage was reported on Nomuka island, home to 239 people, he said.

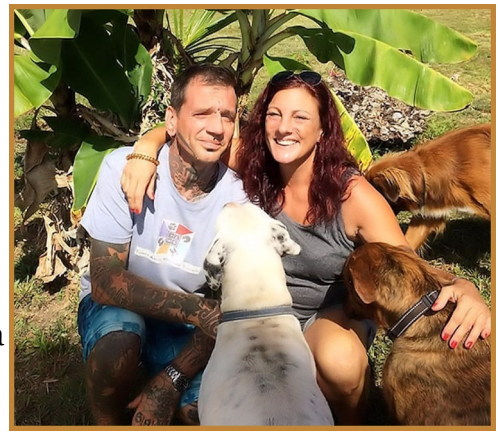
Telecom firm Digicel said on Wednesday that it had managed to restore international calls, though the BBC has not been able to reach numbers in Tonga.

Full connectivity - including the internet - could take four weeks or more to restore after the sole cable to the islands was damaged in two places.

The first aid ships from New Zealand and Australia are expected to arrive on Friday.

Salomi struggles to control her emotion as she returns to the wreckage of her Sopu seafront home, with Esther, 'Aivi and Daniel, after Hunga volcano erupted, generating tsunamis. “I feel so bad but thank God, we got life, my family's alive,” she said. Ten or 12 people lived here. Nuku'alofa, Jan. 16, 2022. Still photo from video by Mary Lyn Fonua.

Deaths - The PM confirmed that three people had died in the tsunamis that struck with a devastating impact on some of the coastal areas and low-lying islands of Tonga. The dead included a British national, Angela Glover (51) who was staying at Kanokupolu, Tongatapu. In Ha'apai a man, Telai Tutu‘ila died at Mango island; and a woman, Maumi Lauaki at Nomuka, Ha‘apai.



James and Angela Glover

Angela Glover, from Brighton UK, operated TAWS (Tonga Animal Welfare Society) and was washed away trying to save her dogs. Her husband James survived by clinging to a tree.

New Zealand Defence Minister Peeni Henare told the BBC the ships would bring more than 250,000 litres of fresh water and desalination equipment, used to separate salt from water.

"The most pressing matter that's come through from the Tongan government is the need for fresh water," he said.

But Tongan officials have also expressed concern that deliveries could result in a spread of the earth-wide Covid-19 virus pandemic, with the country only recording its first case in October.

There have been reports of food supplies at shops running low and deliveries have been deemed a priority. The explosion of the Hunga Tonga-Hunga Ha'apai volcano was felt as far away as the US. In Peru, two people drowned in abnormally high waves while beaches near the capital Lima were closed off following an oil spill.

Tonga Eruption Caused Large Oil Spill in Peru

The oil spill harmed animal and plant life in protected zones over a combined area of some 18,000 square kilometers (6,950 square miles) around islands and fishing regions. The spill from a tanker that was unloading crude at Spanish oil company Repsol's La Pampilla refinery was rocked by waves from Tonga, some 10,000 km (6,213 miles) away.

Thursday 1-20-2022. Meanwhile tales of miraculous escapes, including that of a “real life Aquaman,” emerged from the islands. A 57-year-old Tongan man was being hailed after recounting how he had to swim at sea for about 27 hours after being swept away by the tsunami. Lisala Folau, a retired carpenter who has trouble walking, who lived on the small, isolated island of Atata which has a population of about 60 people, was swept out to sea when the waves hit land at about 7 p.m. on Saturday (1-15-2022), he said in a radio interview to Tongan media agency Broadcom Broadcasting.

Lisala Folau, second left, swam for 27 hours after getting swept away by the tsunami.

Folau said he was painting his home when he was alerted about the tsunami by his elder brother, and soon the waves had gone through his house. He climbed on a tree, with his niece, Elisiva, as his brother ran for help. Folau and his niece finally climbed down from their perch when they thought the waves had subsided, but just then one more hit, estimated about not less than six metres, [arrived].” —sweeping them both out into the ocean around 7pm. "We floated at sea, just calling out to each other," Folau recalled. "It was dark and we could not see each other." He said he soon stopped hearing his niece's calls, though "I could hear my son, Koli, calling." He managed to grab onto a tree trunk and floated to a nearby uninhabited island. The next morning, after he

wasn't able to wave down a passing police patrol boat, Folau decided to set out for the next uninhabited island in the chain, making an eight-hour float-swim that got him there around 6pm Sunday. Folau said that in that moment, he decided not to answer his son, for fear that he would risk his life to save him.

The 57-year-old said he is disabled and cannot walk properly. “I just floated, bashed around by the big waves that kept coming,” he told the radio station. Folau said he kept floating, and slowly managed to swim 4.7 miles to the main island of Tongatapu, reaching the shore 27 hours later at about 10 p.m. on Sunday (1-16-2022), a total distance of around 13 kilometres.

“The truth is no son can abandon his father. But for me, as a father I kept my silence for if I answered him he would jump in and try to rescue me. But I understand the tough situation and I thought if the worst comes and it is only me.”

Folau said he figured that if he clung to a tree trunk, his family would at least be able to find his body if he died. “I floated and was grounded to the east of the island of Toketoke.” Folau said at one point on Sunday morning he saw a police patrol boat heading to Atata island. “I grabbed a rag and waved but the boat did not see me. It then was returning to Tonga and I waved again but perhaps they did not see me.” He then tried to get to the island of Polo’a, setting off at about 10am and landing at around 6pm on Sunday. “I called and yelled for help but there was no one there. My mind was now on my niece that we were washed away together and now I have survived.”

Folau said he then focused on his next move. “I was now strong-minded that I could make it to mui’i Sopu.” Sopu is on the western edge of the capital Nuku’alofa, on the main island of Tongatapu. “I was thinking about my sister at Hofoa who is suffering with diabetes and my youngest daughter [who] has heart problems. All this was racing through my mind.”

At around 9pm, Folau said he staggered towards a house in Sopu, eventually arriving at the end of a tar sealed public road and was picked up by a passing vehicle and taken to the driver’s home. The Guardian has not been able to establish what happened to Folau’s son and the niece he was with in Atata.

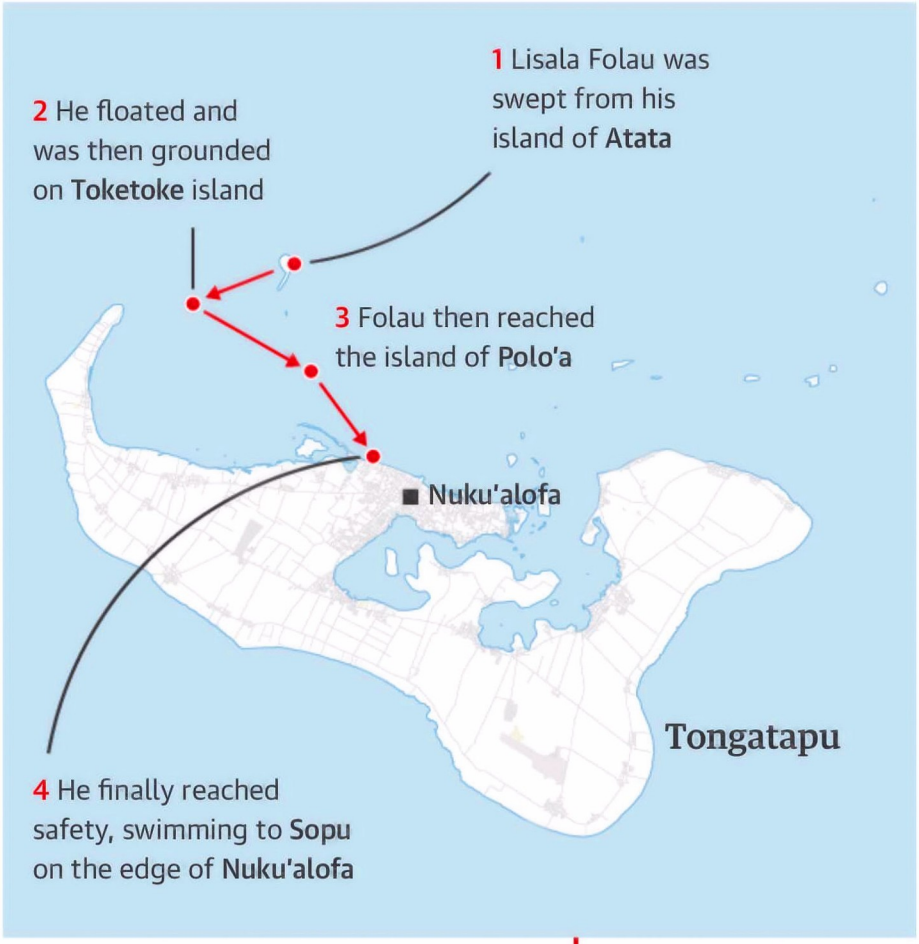
Another son, Talivakaola Folau, took to Facebook to express his gratitude: “A story I’ll never forget in my life … While talking with family in Tonga my tears continued to fall when I think of my Dad swimming around in the ocean after the tsunami hit … My heart is broken imagining you drinking in the seawater Dad, but you’re a strong-willed man.”

It was then that Folau started thinking about his family back home, and how he needed to make it out of his predicament. Per Reuters, he decided to try for the main island of Tongatapu, managing to swim nearly 5 more miles to shore by 10pm, completing a 27-hour ordeal that left him 8 miles from home.

His feat has already gone viral among locals. "Real life Aquaman," one commenter wrote on Facebook. Another posted: "He's a legend." The Sunday Times notes the official death toll out of Tonga remains at three, including that of a British charity worker. It's not yet clear what happened to Folau's niece and son.

Atata, which is about a 30-minute boat ride from Tonga’s capital Nuku’alofa, has been almost entirely destroyed in the tsunami that hit the islands. Tongan naval boats are still surveying the smaller islands and evacuating people to the main islands.

Tongan man swims and floats 13km to safety after tsunami sweeps him out to sea



Irene Mafi shows the height of the wave that engulfed her car on Jan. 15 and the distance from Vuna Road, near the NZHC. Road workers have been clearing roads all week. Photo: Mary Lyn Fonua / Matangi Tonga.

Matangi Tonga editor, Pesi Fonua, photographs devastation at Ha'atafu, Tongatapu. Jan.16, 2022. Photo: Mary Lyn Fonua / Matangi Tonga

Tsunami damage in Hihifo District of Tongatapu. Jan.16, 2022. Photo - Pesi Fonua - Matangi Tonga.

Huge forces wrapped a black car into a tree, behind the Ha'atafu Beach area, following the Jan. 15, 2022, tsunamis. Photo: Mary Lyn Fonua.

TONGA
THE FRIENDLY ISLANDS

From Matangi Tonga Online - Tuesday, January 25, 2022 – 14:31

62 survivors from Mango Island evacuated safely to Tongatapu.

Mango Island evacuees receive clothing donations at the Free Wesleyan Church hall at Longolongo, where they are staying, following Hunga Tonga Hunga Ha'apai volcanic eruption on Jan. 15, 2022.

Photo: Eleanor Gee, Jan. 24 2022.

The community ran and scrambled to the top of a hill where they spent a fearful night, sitting in heavy ash fall, with a large pandanus mat, which the women held over their heads - the men out in the open, children in a small tent, and under woven coconut leaves. Rocks and pumice stones were falling with the heavy ash.

When dawn came they came together on the hill top, looking out to a grey horizon in a strange new blackened world. Mango community leader, Kisina Toetu'u, said, "This natural disaster scale of devastation is the first I've seen but although we went through hardships as we fled for our lives, we are thankful that we are alive, all 62 of us."

Kalisi said the sound and strength of this volcanic eruption at Hunga volcano was a new experience for her. A second fiery eruption was so strong the whole island was shaking and the sky turned black as ash was rising. Kisina Toetu'u said that on Sunday morning, after after the eruption, a search party went down the hill to look for the missing steward, Telai Tutu'ila (65). They found his body. They also found the church's fishing boat washed up on shore with the emergency beacon, which he turned on.

The Town Officer, Sione Vailea, was with the search party. He was thankful for the support during this evacuation. The community, traumatised by their experience, are recovering. Toetu'u said the disaster unfolded very quickly. At 5:00pm on the Saturday he was sitting on the church verandah, engaged in a video call on his phone. "Then I saw the waves coming inland." He moved quickly to get his family away from the coast.

"We all heard the explosion from the volcano. My family was scared but I wasn't because I was strong for the rest of my family and community, because if I seem discouraged, then they too will feel discouraged," he said. Toetu'u first carried his 21-year-old sickly daughter, who is too weak to run, on his back, up the hill. "As I got her safely up, I came back for my wife and other members of my family, as well as fellow churchgoers and we all made it up the hill."

"By 5:30pm it was already dark. As I sat up there I could hear the waves crushing the land." They put up a small tent to cover around 18 children, younger than 12 years. Some women and girls sheltered under one pandanus mat.

But the men had nowhere to hide under during the night, all they had was the clothes on their backs and something to cover their faces." "We stayed there overnight to be safe and it was only the next morning that some men as a search party went down to look for our missing person and saw the devastation, and that nothing was left," he said. The community named the hill that saved them "Mo'unga Saione" (Mount Zion).

“I was glad to see as we approached Nuku’alofa harbour, that the Prime Minister and some Ministers were there to welcome us, he said. Will they return to Mango Island? Toetu’u said “not in the near future”. “Everything is gone there, our homes, so we are here for now and then we will see what steps to take.”

On a hilltop in Mango Island, men have no shelter against the volcanic ash fall and rock fall on the night of Jan. 15, 2022. Photo: Kisina Toetu'u.

Kalisi said she was at home with family and her grandchildren. She was weaving. "The first eruption, I knew it was the volcano,” she said. Then the second eruption and the whole island was shaking. “We all jumped up and stood at the door. I saw in the sky the black smoke rising and within the black smoke there was a glow.” Within minutes the sky turned dark. “I heard more explosions like shooting sounds.”

The town officer, Sione Vailea, shouted out to them to try and get inland because the sea was coming, a tsunami. “We all ran and we didn’t take anything.” Kalisi held her daughter’s hand and ran through the bushes and it was raining and muddy and they reached the side of

the hill. “I told my daughter to leave me here because I’m really tired and I can’t climb up. All of you go and I will stay here! She said no, we would all go and no one will stay here in case the sea gets here.

“We were arguing when her husband arrived and gripped my hand and forcibly pulled me to climb up the mountain with them,” she said. “The three of us fell on the mountain and the path to the top was bushy. But he got my hand and was going to carry me on his back and we went a few steps but I told him to put me down, because if I don’t die from the tsunami, I’ll die from being exhausted.” Kalisi said Sione put her down and they walked a bit then rested on the hill. “Then we finally reached the very top and found others there already using coconut fronds to make a fale,” Kalisi said. Another family arrived with a plastic tarpaulin and put the children in there. It was starting to rain and getting really dark and more families were running to the top.

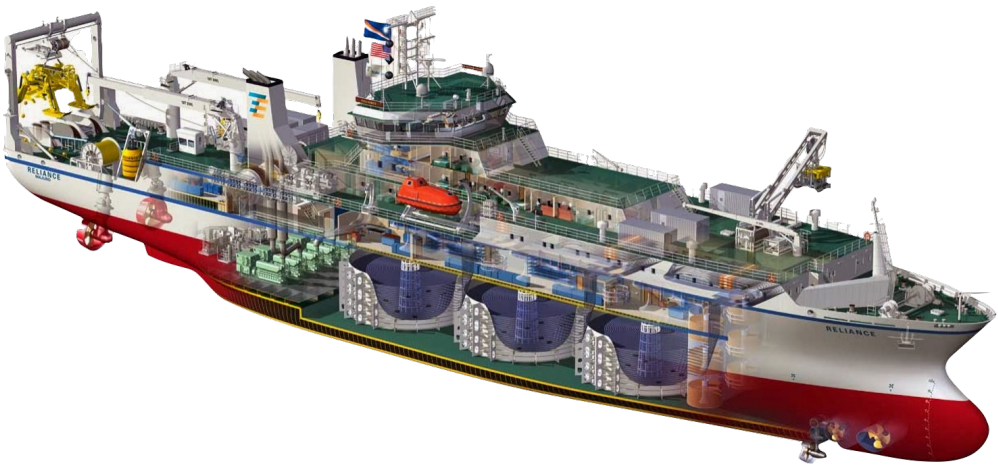
“We stayed there in the dark and the rain fell, it was sad with the ash, and the rocks all falling down. We pulled up a piece of mat to put over us. The saddest part was seeing the men who had nothing to hide under. The rest of us were hiding under trees.” Kalisi said the men were sitting in the mud in the open, some were lying down. Some were also trying to the find the man that was missing. They were calling for him and using torches to try and find him but they did not go into the sea.

Mango Island Jan. 16, 2022. Photo: Kisina Toetu'u.

TONGA
THE FRIENDLY ISLANDS

An undersea fibre-optic cable, laid in 2013, which connects Tonga to the rest of the world was severed during the eruption of the volcano, leaving Tonga's 110,000 people being cut off from high speed internet access. A 2G wireless connection was established on the main island, using a satellite dish from the University of the South Pacific. But the service is patchy, and internet services run slowly. New Zealand's ministry of foreign affairs says it could take more than a month to repair the 49,889km (31,000miles) of cable in the South Pacific. The cable, which is operated by Tonga Cable, was broken about 37km (23 miles) offshore.

The nearest cable-laying vessel was in Port Moresby, Papua New Guinea, more than 4,000 km (2,500 miles) from Tonga. Southern Cross assisted Tonga Cable Limited which owns the 872-km cable linking Tonga with Fiji, and from there to the rest of the world. It has cable landing points at Sopu, a suburb of Nuku'alofa in Tonga, and Suva Fiji. The cable repair ship "Reliance" serves more than 50,000km (31,000 miles) in the South Pacific.



Cable Repair Ship Reliance

In Western countries, if one cable breaks it is not a problem, because there are many others. The UK, for example, has about 50 cables feeding data into the country. In Tonga, there was just one. "Ideally you would have at least two cables as a minimum," according to principal engineer at Virgin Media, Peter Jamieson, who is also vice-chairman of the European Subsea Cable Association. "But cables are expensive and there is no drive for Facebook, Google or anyone to build one there."

Around the world it is estimated there are more than 430 cables, spanning distances of 1.3 million km (800,000 miles). After an earlier cable break in 2019 - from a ship's anchor - Tonga signed a 15-year deal to get satellite connectivity. But the use of satellite phones has been affected by the volcanic ash blanketing the country. Some people have reported they can only dial out - and not receive calls.

Because of the cost, the use of satellite phones is limited to government officials, and some businesses. Mobile network provider Digicel has set up an interim system on the main island of Tongatapu, using the University of the South Pacific's satellite dish to provide limited 2G coverage until the subsea cable is repaired. Experts will have to determine that the area is safe for the boat and the crew, and that no more volcanoes are likely to erupt.

END – “Hunga Tonga – The Volcano!”

About the Author

Larry W Jones is a songwriter, having penned over 7,700 song lyrics. Published in 22 volumes of island themed, country, cowboy, western and bluegrass songs. The entire assemblage is the world's largest collection of lyrics written by an individual songwriter.

As a wrangler on the "Great American Horse Drive", at age 68, he assisted in driving 800 half-wild horses 62 miles in two days, from Winter pasture grounds in far NW Colorado to the Big Gulch Ranch outside of Craig Colorado.

His book, "The Oldest Greenhorn", chronicles the adventures and perils in earning the "Gate-to-Gate" trophy belt buckle the hard way.

Other books published by Larry W Jones:

A Squirrel Named Julie and The Fox Ridge Fox
The Painting Of A Dream
The Boy With Green Thumbs and The Wild Tree Man
Red Cloud – Chief Of the Sioux
Spotted Tail – The Orphan Negotiator
Little Crow – The Fur Trapper's Patron
Chief Gall – The Strategist
Crazy Horse – The Vision Quest Warrior
Sitting Bull - The Powder River Power
Rain-In-The-Face – The Setting Sun Brave
Two Strike – The Lakota Club Fighter
Chief American Horse – The Oglala Councilor
Chief Dull Knife – The Sharp-Witted Cheyenne
Chief Joseph – Retreat From Grande Ronde
The Oregon Trail Orphans
Kids In Bloom Volume 1
Kids In Bloom Volume 2
Kids Animal Pals Volume 1
Kids Animal Pals Volume 2
Bird Kids Volume 1
Bird Kids Volume 2
Garden Kids Volume 1
Garden Kids Volume 2
Folklore Of Jackson Hole
Henny Penny Meets Chicken Little
Delightful Stories For Children
The 1825 Voyage Of HMS Blonde
Illustrated Stories For Young Children
Sea Sagas – Perilous Voyages
Songbirds And Their Stories
The Jungle Book – Mowgli's Brothers
The Jungle Book – Kaa's Hunting
The Jungle Book – Tiger! Tiger!
The Jungle Book – The White Seal
The Jungle Book – Rikki-Tikki-Tavi
The Jungle Book – Toomai of the Elephants
The Jungle Book – Her Majesty's Servants

Other books published by Larry W Jones:

The Oldest Greenhorn – Second Edition
Life On The Mississippi
Songs Of The Seas
Treasure Island
The Wind In The Willows
Alice In Wonderland
Peter Rabbit
The Secret Garden
Heidi
Cynthia Ann Parker – Comanche Bride
Black Beauty
The Call Of the Wild
Uncle Remus and Brer Rabbit
Twenty Thousand Leagues Under the Sea
The Goodnight-Loving Trail – A Chuckwagon Saga
Ode To Toulee – From Gosling To Goose
China Clipper – Floatplanes Of Pan Am
Images Of Old England
Range Of A Cowboy
Clipper Ships – Emigrants Passage
Clipper Ships – Wool and Wealth
Clipper Ships – Iron Maidens
Clipper Ships – The Kiwi Connection
Chief War Eagle – Peacemaker Of The Sioux
Ohiyesa – From Sioux To Surgeon
Indian Ways Of Yore – Fables And Fact
Heritage Of An Indian Boy
Daniel Boone On the Cumberland Trail
Davy Crockett Of the Wild Frontier
Jim Bowie – Life Legacy Legend
Sam Houston – Tennessee To Texas
Shackleton – Polar Quest
Death Valley Days – The Manly Trail
Pocahontas – Powhatan Princess
Tecumseh – The Roaming Cherokee

All his publications are available on Lulu.com